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ABSTRACT

Academic standards describe the knowledge and skills that students should acquire while in traditional academic disciplines. Workplace skill standards define the knowledge and skills required to work successfully in a particular field or occupation. Standards are being generated from reform efforts to promote standards-based education and efforts to develop school-to-work transition skills. Educators are recognizing that academic standards and workplace skill standards can be combined in an integrated curriculum or a unified education system. In a unified education system, all students remain in the same educational setting for most of their schooling and have the opportunity to focus on workplace skills and/or further education. Instruction emphasizes the integration of workplace and academic skills and occurs in the setting most appropriate for learning academic and workplace skills. States and Pacific governmental entities wishing to create unified education systems need to do the following: identify the overlap between academic and workplace skill standards; establish explicit connections between both sets of standards; and work to overcome three categories of barriers (tradition, college admissions policies, and public resistance). There is no one "right" way to create a unified education system. The key to upgrading the achievement of all students is comprehensive, "whole school" revitalization. (MN)

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Integrating Academic Standards and Workplace Skill Standards for a Unified Education System

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Adapted by Stan Koki
From *Preparing Students for the Twenty-first Century*
A National Governors' Association Issue Brief*

Standards-based education. School-to-Work. America's public schools are immersed in these two systemwide efforts that challenge traditional schooling and promise to rewrite education curricula, instruction, and assessment. Increased emphasis on standards-based education and school-to-work programs comes in response to the global economic challenges facing American businesses, and the perception that American students are not being adequately prepared for the workforce or higher education. Policymakers recognize these shortcomings as major factors that limit the economic competitiveness of the nation.

By focusing on raising standards for student achievement and increasing the knowledge and skills of graduates, these reform efforts aim to have U.S. students equal or surpass levels of educational achievement reached by students in other countries. Despite this common goal, however, these two movements are occurring separately in most states, with little collaboration or communication among reformers. Educators are now recognizing that academic standards and workplace skill standards can be combined in an integrated curriculum or a unified education system. Both sets of standards can drive reform by setting high targets for students and educators and by focusing on the knowledge and skills necessary to succeed in institutions of higher education or to compete in the workplaces of tomorrow.

This briefing paper examines the roles of academic standards, workplace skill standards, and school-to-work programs in a unified education system that can prepare students for the twenty-first century. It describes what a unified education system might look like, discusses the role that standards

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play in a unified system, and suggests ways that academic standards and workplace skill standards can be integrated to enhance students' future achievement.

What Are Academic Standards?

Academic standards describe the knowledge and skills that students should acquire while in traditional academic disciplines. States began developing standards in the early 1990s as part of their efforts to improve academic achievement for all students. These state efforts were supported by the national *Goals 2000: Educate America Act*. However, the setting of academic standards continues to remain a state or Pacific governmental entity-based effort rather than a national one.

Most states and Pacific governmental entities have established or are establishing standards according to academic discipline. However, beyond the basic "core" of language arts, science, mathematics, and social studies, policymakers differ on how some of the disciplines are addressed. Typically, separate groups develop standards in each discipline, and there is little attention paid to defining the connections between these standards. The tendency to isolate knowledge within a discipline works against the need for interdisciplinary skills that success in the workplace requires. This isolation also creates a barrier to the integration of curricula using real-life examples, as desired in school-to-work transition systems.

What Are Workplace Skill Standards?

Workplace skill standards define the knowledge and skills required to work successfully in a particular field or occupation. Their focus, however, is not on learning academic disciplines, but rather on using academic and work-based skills and knowledge to meet the demands of occupations or industries.

Over the years, workplace skill standards have been developed for many technical programs at schools and community colleges. However, the current reform effort aimed at workplace skill standards has given birth to a new approach, which is described in the School-to-Work Opportunities Act of 1994. Two components are required of skill standards that are developed under this legislation: 1) common definitions of the skills required to succeed in an occupation or career path, and 2) benchmarks for student performance that are demanding enough to create a highly skilled workforce.

Finding a Common Ground for Combining Academic and Workplace Skill Standards

The reform efforts to promote standards-based education and to develop school-to-work transition skills are both generating standards. Forty-nine states and several governmental entities in the Pacific region have developed or are in the process of developing academic standards, commonly called *content and performance standards*, as part of their educational restructuring. Reforms to improve vocational education and the skills that students bring to the workplace are creating new sets of skill standards. In order to have a coherent framework for a unified education system, academic standards and workplace skill standards need to be combined.

Combining academic standards and workplace skill standards to support a unified approach to education will not be easy. Developers and proponents of these standards often have different perspectives, priorities, and concerns. Therefore, academic educators, workforce developers, vocational educators, and private sector employers tend to view standards-based education and school-to-work transition reform differently.

Despite these differing perspectives, there is an underlying consensus on key issues among proponents of reform. This consensus is the common ground on which a unified education system can be

built. Both reform movements are working to raise student achievement. Both focus on the skills and abilities of all students. Both are based on the belief that raising student achievement requires doing things differently, appealing to diverse ways that students learn, and incorporating practical applications of abstract theory into general education. Both encourage a competency-based approach to learning and assessment, rather than a time-based one. These similarities provide reassurance to policymakers that a unified education system can become a reality.

What Are the Characteristics of a Unified Education System?
A unified education system has the following attributes:

- All students, regardless of their level of educational achievement, remain in the same educational setting for most of their schooling.
- All students are expected to achieve at a high level in preparation for work and further learning.
- All students have the opportunity to focus on workplace skills and/or further education.
- Instruction emphasizes the integration of workplace skills and academic skills.
- Instruction occurs in the setting most appropriate for learning academic and workplace skills.
- Students are given choices based on their interests.

These attributes draw on strengths of both the American and European systems of education. From the American system comes the vision of one education for all. The European setting provides a vision of high standards for all students. Typically, American students have been "tracked" according to their varying ability levels. European students, on the other hand, are "tracked" into different educational programs that have varying goals and that base instruction on student performance and work goals.

Using Academic and Workplace Skill Standards to Create a Unified Education System
As a first step in creating a unified education system, states and Pacific governmental entities will need to identify the overlap between academic standards and workplace skill standards. In the development of curricula, identification of career pathways, and implementation of performance-based assessments, practitioners will need to overlay the skills, knowledge, and requirements of each set of standards. The incorporation of skill standards into the school-to-work transition system requires the establishment of explicit connections between academic content standards and workplace skill standards through the following sequence of events:

1. Identify broad skills and competencies that cut across specific occupations or occupational groupings. In particular, identify the math, language, and reading skills that are needed for success in any career and build a basic curriculum that all students are expected to master. Identify which academic standards these skills and competencies address and when they occur in the curriculum.

2. Identify the advanced skills that cut across occupations within broad career pathways for inclusion in a career-oriented curriculum in secondary school. Identify the academic skills and competencies that these advanced skills address and at what grade level they are taught in the curriculum.

3. Work with the business and industry sectors to identify the practical skills that could best be learned in work-based experiences but which require instruction in the classroom first.

4. Within each occupation or occupational cluster, identify the practical skills that should be taught in post-secondary programs and the academic skills that are needed to reinforce those practical skills.

5. In the general curriculum, identify and include instruction, contexts, and problems from real work situations that can be used to demonstrate and teach general skills and knowledge. For the general curriculum, a wide variety of contexts should be used as a way to expose students to a range of careers.

6. Identify the work-related uses of knowledge and skills, including advanced skills, and incorporate these connections in classroom instruction (e.g., the uses of geometry and physics in construction, the relation of physical properties of matter to the development of tools and machinery, the connection between physiology and medical machinery, and the roles of regulation and democratic control in business operations).

7. Include instruction in basic workplace skills at the appropriate age and grade. For example, skills such as being on time, communicating with adults, working in teams, wearing appropriate dress, and so on, can be taught from an early age. More explicit ways of relating these skills to the workplace can be taught in later grades. These basic workplace skills can be reinforced through work-based learning experiences.

Most states and Pacific governmental entities have identified work-related information to be taught at each level of schooling in their school-to-work transition plans. In these plans, the overlap between academic standards and workplace skill standards increases as a student progresses from one grade level to the next. The extent to which workplace skills are taught in an academic context and academic skills are taught in a work context is limited in the early grades but becomes the predominant mode of learning for secondary students experiencing the unified education approach.

Promising Programs

Building Linkages Project

The debate about achieving a proper balance between the use of academic standards and workplace skill standards has led to different approaches in ways of ensuring that students leave high school with the requisite knowledge and skills for success in the workplace and/or higher education. One such approach is the Building Linkages Project, in which some states integrate the two sets of standards in career clusters. The Building Linkages Project is a collaborative effort involving the National School-to-Work Office, the National Skills Standards Board, and the U.S. Department of Education's Office of Adult and Vocational Education. The primary objective of this initiative is to bring together representatives from businesses, secondary and post-secondary education institutions, and labor groups in order to develop, within school-to-work career majors, portable certificates that are based on the integration of rigorous academic standards and industry-recognized skill standards. To reach this objective, consortia of states have organized around three broad career majors—business and management, health services, and manufacturing.

High Schools That Work

The Southern Regional Education Board's *High Schools That Work* program is the nation's first large-scale effort to combine challenging academic courses and modern vocational studies. The pur-

pose of the program is to establish higher expectations for all secondary students and prepare students in career-bound programs for work and further education. *High Schools That Work* is based on the belief that all students can master complex academic and technical concepts if they are provided with an environment that motivates them to succeed. Participating schools implement ten key practices that are designed to change what students are taught, how they are taught, and what is expected of them.

The key to upgrading the achievement of all students is a comprehensive, "whole school" revitalization. The strategies of the Southern Regional Education Board's (SREB) initiative overlap those of other education reform efforts. Some schools are choosing to combine this initiative with other secondary school reforms. Participating states include Alabama, Arkansas, Delaware, Florida, Georgia, Hawai'i, Indiana, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

Barriers to Overcome

There is not just one "right" way to create a unified education system. States and U.S.-affiliated Pacific islands are using different approaches to meet this challenge. Each approach shows promise, but significant barriers to success must be overcome. Major issues to be addressed include the following:

- *Tradition.* Historically, the American high school has sorted its students, identifying those with potential to succeed at the college or university level and preparing them for that environment. Students who are not bound for college are given a basic education that often does not adequately prepare them for success in a high-performance workplace. Educating all students at high levels is a shift in paradigm, and achieving this transformation will require significant restructuring of the traditional high school.

- *College Admissions.* College admissions policies and practices significantly influence the organization and teaching of high schools. If college admissions requirements do not shift from the current reliance on time-based courses and other aspects of a traditional college-preparatory track to an acceptance of applied learning courses and competency-based learning, then parents and students are unlikely to embrace new strategies and high schools are unlikely to implement them.

- *Public Engagement.* Some parents are concerned that strategies to integrate academic standards and workplace skill standards will result in a "dumbing down" of educational content. In addition, there are fears that school-to-work transition systems will force students to make binding career decisions at an inappropriately early age. Reform efforts to develop a unified education system must be accompanied by significant outreach efforts to parents, educators, and businesses. Such outreach will help create a better understanding of the goals of reform among community members and, through dialogue and participation, can build greater acceptance of its implementation.

Conclusion

Concerns about economic competitiveness and equity provide the impetus for the promotion of standards-based education and the development of school-to-work transition skills. These reform initiatives share common goals and include raising the level of performance of all students and creating different educational approaches that enable all students to learn and demonstrate mastery of both rigorous academic content and workplace skills.

Increasingly, policymakers, researchers, and educators believe that these objectives can best be achieved through the development of a unified system of education that sets high expectations for all students and that employs educational strategies that recognize diversity among students and differences in learning styles. In this way, all students can learn at optimum levels.

A unified system creates options for students rather than limiting them. All students should reach the end of secondary school prepared for workforce or for post-secondary education in a college, university, or technical training program. Most importantly, students should exit secondary school with the necessary skills and knowledge to enable them to take advantage of lifelong learning opportunities, because workers in high-performance organizations are required to constantly upgrade their skills and knowledge.

Ongoing pressures to improve student learning and American economic competitiveness will continue to spark reform efforts aimed at creating a unified education system. States and Pacific entities that are now working to integrate academic standards and workplace skill standards can provide examples of best practices in order to inform and guide the efforts of those still in the early stages of building a unified education system.

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